

# Practice A

For use with pages 53-59

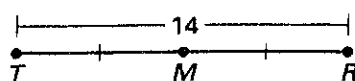
a. bisect  
b. midpoint  
c. bisector

Complete the statement. *Multiple Choice*

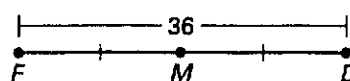
- The   ?   of a segment is the point on the segment that divides it into two congruent segments.
- A   ?   is a segment, ray, line, or plane that intersects a segment at its midpoint.
- To   ?   a segment means to divide the segment into two congruent segments.

**M is the midpoint of the segment. Find the segment lengths.**

4. Find  $TM$  and  $MR$ .



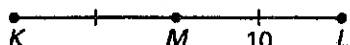
5. Find  $FM$  and  $MD$ .



6. Find  $MR$  and  $QR$ .



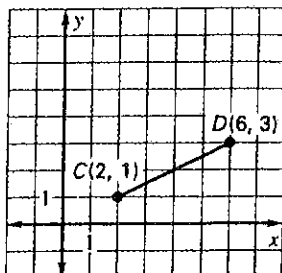
7. Find  $KM$  and  $KL$ .



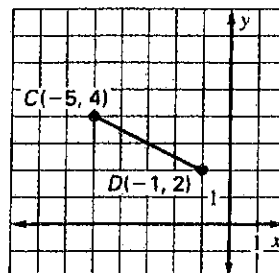
Use the Midpoint Formula to find the coordinates of the midpoint of  $\overline{CD}$ .

$$M\left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2}\right)$$

8.



9.



~~Sketch  $\overline{PQ}$ .~~ Then find the coordinates of its midpoint.

10.  $P(0, 0), Q(6, -4)$

11.  $P(0, 8), Q(2, 6)$

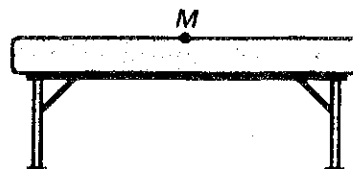
12.  $P(1, 2), Q(-5, 0)$

**M is the midpoint of  $\overline{AB}$ . Find the value of  $x$ .**

13.  $A \quad 2x \quad M \quad 18 \quad B$

14.  $A \quad 3x \quad M \quad 24 \quad B$

15. A balance beam is shown at the right. Your gymnastics routine includes a jump at the midpoint  $M$  of the beam. If the length of the beam is 500 centimeters, what is the distance from the end of the beam to the jump location?

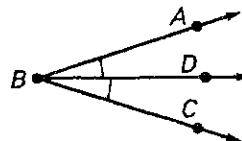


# Practice A

For use with pages 60-66

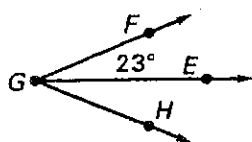
Complete the statement for the diagram at the right.

1.  $\angle$  \_\_\_\_\_ is bisected by \_\_\_\_\_.
2. The measure of  $\angle ABC$  is \_\_\_\_\_ the measure of  $\angle ABD$ .

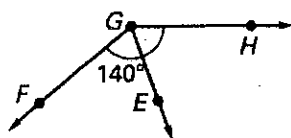


$\overrightarrow{GE}$  bisects  $\angle FGH$ . Find the angle measure.

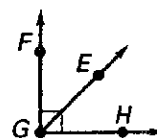
3. Find  $m\angle EGH$ .



4. Find  $m\angle FGE$ .

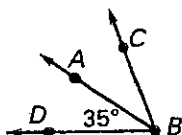


5. Find  $m\angle EGF$ .

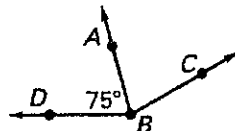


$\overrightarrow{BA}$  bisects  $\angle DBC$ . Find  $m\angle CBA$  and  $m\angle DBC$ .

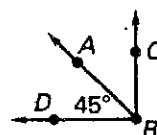
6.



7.

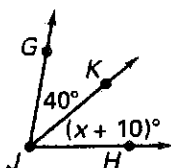


8.

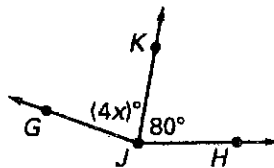


$\overrightarrow{JK}$  bisects  $\angle GJH$ . Find the value of  $x$ .

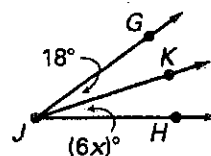
9.



10.

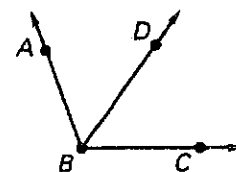


11.

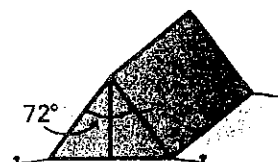


Use the diagram at the right. Decide whether the statement is true or false.

12. If  $\overrightarrow{BD}$  bisects  $\angle ABC$ , then  $\angle ABD \cong \angle DBC$ .
13. If  $\overrightarrow{BD}$  bisects  $\angle ABC$ , then  $\angle DBC \cong \angle ABD$ .
14. If  $\overrightarrow{BD}$  bisects  $\angle ABC$  and  $m\angle ABD = 55^\circ$ , then  $m\angle DBC = 55^\circ$ .
15. If  $\overrightarrow{BD}$  bisects  $\angle ABC$  and  $m\angle ABC = 112^\circ$ , then  $m\angle ABD = 61^\circ$ .



16. In the pup tent shown at the right, the two sides meet at the top to form a  $72^\circ$  angle. If the tent pole bisects the angle, what angle does the tent pole make with each of the sides?



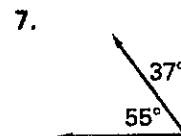
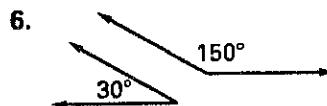
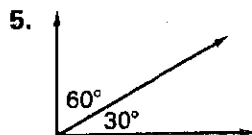
# Practice A

For use with pages 67-73

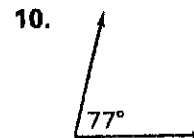
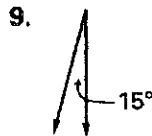
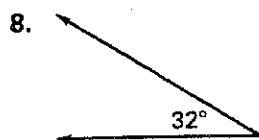
Decide whether the statement is **true** or **false**. If the statement is false, reword the statement so that the statement is true.

- Two angles are complementary if the sum of their measures is  $180^\circ$ .
- Two angles are supplementary if the sum of their measures is  $180^\circ$ .
- Two angles are adjacent angles if they share a common vertex.
- ☒ A theorem is a true statement that follows from other true statements.

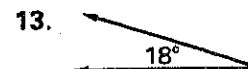
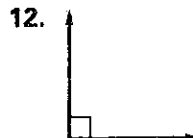
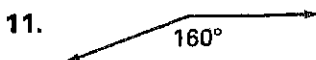
Determine whether the angles are **complementary**, **supplementary**, or **neither**.



Find the measure of a complement of the angle given.

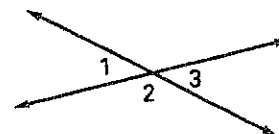


Find the measure of a supplement of the angle given.

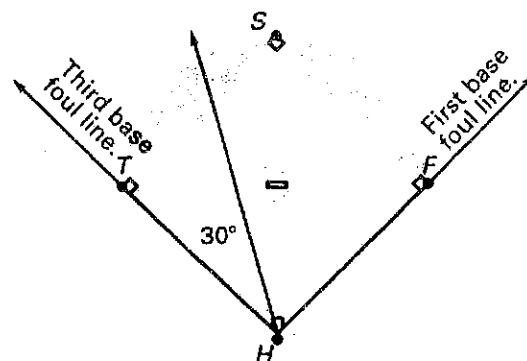


Use the diagram to complete the statement.

- $\angle 1$  and  $\angle \underline{\hspace{1cm}}$  are supplementary angles.
- $\angle 3$  and  $\angle \underline{\hspace{1cm}}$  are supplementary angles.
- $\angle \underline{\hspace{1cm}} \cong \angle \underline{\hspace{1cm}}$  by the Congruent Supplements Theorem.



- ☒ The foul lines of a baseball field intersect at home plate to form a right angle,  $\angle THF$ . You hit a baseball whose path forms an angle of  $30^\circ$  with the third base foul line. What is the measure of the angle formed by the first base foul line and the path of the ball?



# Practice A

For use with pages 74-81

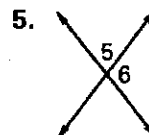
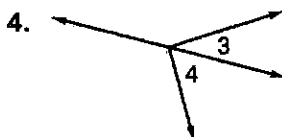
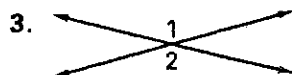
Complete the statement.

Multiple Choice

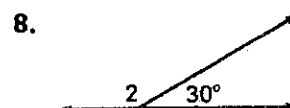
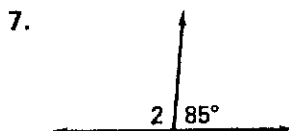
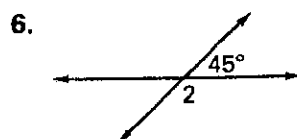
a. complementary  
b. supplementary  
c. congruent

1. If two angles form a linear pair, then they are   ?  .
2. The Vertical Angles Theorem states that vertical angles are   ?  .

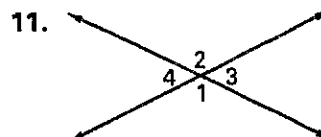
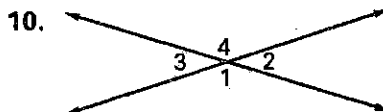
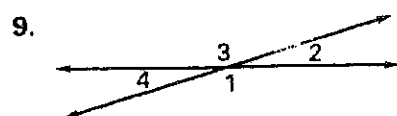
Determine whether the labeled angles are *vertical angles*, a *linear pair*, or *neither*.



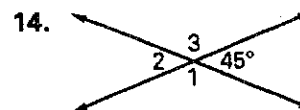
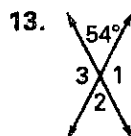
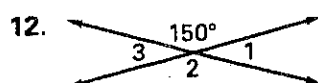
Use the Linear Pair Postulate to find the measure of  $\angle 2$ .



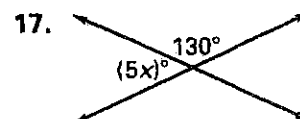
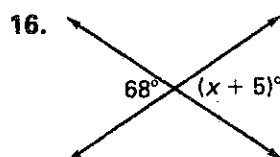
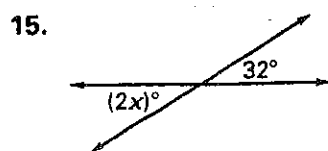
Use the Vertical Angles Theorem to find an angle that is congruent to  $\angle 1$ .



Use the Vertical Angles Theorem and the Linear Pair Postulate to find  $m\angle 1$ ,  $m\angle 2$ , and  $m\angle 3$ .



Find the value of  $x$ .



The window frame shown at the right forms angles 1, 2, 3, and 4. The measure of  $\angle 1$  is  $70^\circ$ .



18. Name two pairs of vertical angles.
19. Find  $m\angle 2$ .
20. Find  $m\angle 3$ .
21. Find  $m\angle 4$ .